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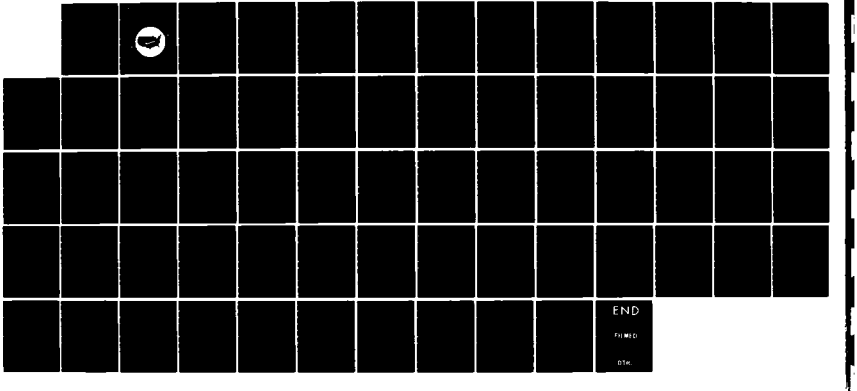

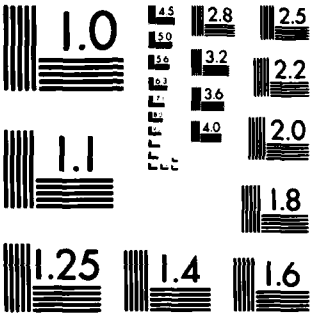

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U.S. Department of Transportation
Federal Aviation Administration

NATIONAL AIRSPACE REVIEW
ENHANCEMENT PLAN
REVISION 3

Prepared for
Air Traffic Service
by
Engineering and Economics Research, Inc.

DECEMBER 19, 1984

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

National Airspace Review Enhancement (NARE)

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: National Airspace Review Enhancement Plan; Revision 3

SUMMARY: On April 22, 1982, the National Airspace Review (NAR) plan was published in the Federal Register (47 FR 17448). The plan encompassed a review of airspace use and the procedural aspects of the Air Traffic Control (ATC) system. This comprehensive plan contained an administrative structure and some detailed task assignments which have resulted in recommendations to the FAA. On April 13, 1984, a revision to the original plan was published in the Federal Register (49 FR 14823). This notice outlines changes which have been made to the April 13, 1984, revision. The NAR Plan has been retitled as the National Airspace Review Enhancement (NARE) Plan to reflect the expanded scope of this undertaking. Included is the addition of studies to review the airspace allocation, procedural, and regulatory aspects of improvements scheduled under the National Airspace System (NAS) plan and the shift of program sponsorship from the Associate Administrator for Air Traffic to the Director of Management Systems. Only the studies scheduled through June 30, 1985 are firm commitments. The other studies through 1990 are tentative pending a more detailed review by the Executive Committee.

EFFECTIVE DATE: December 19, 1984

FOR FURTHER INFORMATION CONTACT:

Office of Management Systems, AMS-1, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591, (202) 426-8020.

SUPPLEMENTAL INFORMATION:

On April 22, 1982, the NAR Plan was published in the Federal Register (47 FR 17448). In addition, Revision 1 to the plan was published in the Federal Register (48 FR 5202) on February 3, 1983, and Revision 2 of the plan was published in the Federal Register (49 FR 14823) on April 13, 1984. A third revision is now necessary to include the additional studies under NARE, as the plan has been retitled, and a transfer of NARE program management responsibilities from the Special Projects Staff, AAT-30, to the Office of Management Systems, AMS-1. Also included are changes to the current schedule resulting from NARE Executive Steering Committee (EXCOM) action and knowledge gained since Revision 2. Changes are summarized below, followed by the revised plan in its entirety.

(1) The Program Manager (PM) now resides within the Office of Management Systems (AMS). The Program Manager is Burton L. Gifford, AMS-4.

(2) Review of existing task group (TG) assignments resulted in identifying five studies that should be added to the current schedule. Five government only assignments in the April 13, 1984, Federal Register publication of Revision 2 of the NAR Plan were accomplished through normal administrative activities and therefore removed from the current schedule.

(3) For the additional studies, the emphasis transitions from review of the National Airspace System (NAS) as it is to what it will be. The additional NARE studies will review the airspace allocations, procedural, and regulatory aspects of scheduled improvements under the NAS plan as well as those enhancements envisioned under other plans. This central theme of reviewing airspace allocations, procedures, and regulations is emphasized as not being in opposition to an evaluation and/or validation of hardware and software, as it exists today, or FAA policy regarding such issues as staffing, numbers of sectors and facility location. There is a direct relationship between the additional NARE studies and the stated intent of the NAS plan to effect system improvements involving the overall FAA responsibilities for technical equipment advances, aircraft performance expectations, and air traffic control services. This broadening of the base has led to a shift in the sponsorship of NARE to a managerial organization appropriate to significant matrix management. NARE program management will be assumed by the Office of Management Systems, AMS-1, under the direction of the Associate Administrator for Administration, AAD-1. Also, the FAA Associate Administrators for Development and Logistics, ADL-1, Aviation Standards, AVS-1, and Airports, ARP-1 will be added as members of EXCOM. The Associate Administrator for Air Traffic, AAT-1, continues as a member of EXCOM.

(4) The additional studies consist of 15 study areas containing approximately 50 study group meetings through 1990. The schedule of

studies through June 30, 1985, is firm. All subsequent studies are tentative. The study areas are derived from analysis of the planned en route, terminal, and flight service system enhancements relative to their assessed potential to generate operational adjustments. Study areas and topics may be added and/or deleted as circumstances warrant. The number of task group meetings per year will normally not exceed 10 and the traditional summer vacation and holiday periods are avoided. The normal meeting schedule would span a two week period with the task group in session from Tuesday through Thursday of the first week and Monday through Thursday of the second week. Monday of the first week would be for travel and Friday of the first week would be set aside for caucus of user and provider groups as required. Friday of the second week would be open for schedule overrun. The entire NARE study cycle involves initial development of strategy and participant selection; research and preparation of advance information; the task group meeting itself; the preparation, coordination, and distribution of the staff study; preparations for executive committee action; office of primary interest feasibility study; and the final documentation and disposition of recommendations. Normally, the advance information package will be distributed 60 days prior to the scheduled meeting date; the draft staff study will be distributed within 5 weeks and the final staff study within 10 weeks after the task group meeting; and preparations for presenting the results of a task group to the EXCOM will be complete within 18 weeks after the task group

meeting. The dates stated in the plan may require adjustment to conform to changes in the NAS Plan and/or other schedules. Participant flexibility is necessary to allow for changes as system enhancements develop and attract different interests.

The scope of study topics is stated for planning purposes and may be adjusted to include/ exclude areas of consideration according to relevant interest of the time.

NATIONAL AIRSPACE REVIEW ENHANCEMENT PLAN

PURPOSE

The purpose of the NARE is to review ATC procedures, flight regulations, and airspace allocations for the purpose of validating the current system and identifying near-term changes that will simplify operations and promote greater efficiency for all airspace users. The NARE will match airspace allocations and air traffic procedures to technological improvements, system capacity, and fuel efficiency programs. As a result of NARE studies, recommended changes to the present air traffic system will be integrated into associated research and development efforts. These changes will provide the operational framework for moving into the next generation National Airspace System.

Effective with Revision 3, the additional studies under the NARE process give NARE an added purpose. This added purpose transitions NARE from its present concern with the NAS as it is to long-term operational considerations of an enhanced system as it evolves under scheduled and other improvements. As a result of the additional studies, potential adjustments of airspace, procedures, and regulations necessitated by system enhancements will be identified, analyzed, and documented for delivery to system managers as a basis for recommended operational changes as opposed to specific generation of system requirements.

OBJECTIVES

There are three main objectives of the NARE:

Objective 1 is to develop and incorporate into the air traffic system a more efficient relationship between traffic flows, airspace allocation, and system capacity. This will involve the use of improved air traffic flow management to maximize system capacity and improved airspace management.

Objective 2 is to review and eliminate, wherever possible, governmental restraints to system efficiency levied by FAR's and FAA Handbooks. The intent is to reduce complexity and simplify the ATC system.

Objective 3 is to revalidate and identify ATC services within the National Airspace System with respect to state-of-the-art and future technological improvements. This will entail a complete review of separation criteria, TCA/TRSA requirements, IFR/VFR services to the pilot, etc.

Around these objectives evolved the proposed list of task areas to be studied.

ADMINISTRATIVE STRUCTURE

To effectively manage a program of this magnitude, an organizational structure was developed to provide the necessary direction and coordination. It consists of: (1) An Executive Steering Committee, (2) a Program Manager, (3) a Program Management Staff, and (4) Task Groups. A brief description of the role and responsibilities of each entity is listed below:

The Executive Steering Committee (EXCOM) is composed of members from the FAA, DOD, and a cross section of aviation industry organizations. The membership is as follows:

Chairman - Deputy Administrator of the FAA, (ADA-1)

Executive Director - FAA, Director of Management Systems (AMS-1)

Member Organizations:

FAA - Federal Aviation Administration

DOD - Department of Defense

ATA - Air Transport Association

NBAA - National Business Aircraft Association

RAA - Regional Airline Association

AOPA - Aircraft Owners and Pilots Association

EAA - Experimental Aircraft Association

HAI - Helicopter Association International

NATA - National Air Transport Association

Responsibilities of the EXCOM are to:

1. Review staff studies and progress reports on TG activities to insure that recommendations meet the intent and purpose of the NARE.
2. Provide guidance by recommending further study in areas where, in the opinion of the committee, TG recommendations fall short of stated program objectives.
3. Recommend to the Administrator, Federal Aviation Administration, adoption or nonadoption of TG proposals associated with the NARE.

Program management will be provided by a program manager (PM).

PM responsibilities are to:

1. Provide liaison between the Program Management Staff (PMS) and FAA organizational elements and provide required administrative services.
2. Report directly to the EXCOM providing staff studies and status reports on TG activities.
3. Select TG chairperson.
4. Supervise program development and implementation.
5. Supervise the PMS to insure a systematic approach is taken as development and implementation progresses.
6. Determine the adequacy and validity of TG's recommendations.

The PMS is composed of approximately six members. Additionally, a Department of Defense representative is assigned as a focal point for military related NARE activities.

PMS responsibilities are to:

1. Recommend task group chairmen and participants to PM.

2. Monitor task group progress.

3. Forward task group reports to the PM.

4. Provide interface between task groups to ensure compatibility of recommendations.

5. Provide guidance and technical expertise to task groups.

6. Coordinate all program activities to ensure a smooth transitioning from one task group to the next.

7. Track implementation of task group recommendations.

8. Evaluate candidates for contractual service requirements in support of the NARE program.

9. Recommend specific contractors to the PM.

10. Develop, review, and update program budget requirements.

The responsibilities of each task group are to:

1. Review and analyze data related to the task assignment.

2. Identify system impact of recommended changes.

3. Provide regular reports to the PMS on TG progress.

4. Submit final recommendations, via staff study, to the PMS.

Task group members are selected from aviation industry groups (management and labor), and Federal and state government aviation agencies which form the National Airspace Review Enhancement Advisory Committee (NAREAC). Personnel selected must possess expertise related to the specific task assignment. While task group composition should not normally exceed 14 members, the exact number will be determined by the

PMS depending on task assignment. Limiting the size of each TG will prevent some organizations that have shown an interest in specific TG's or assignments from participating as group members. However, the FAA recognizes the expertise of the various entities and offers them an opportunity to provide input to specific TG's. TG meetings will be announced in the Federal Register at least 15 days in advance and will be open to the public. Interested parties may submit, in writing, recommendations relative to the task assignment prior to the TG meeting. Those comments will be given full consideration during the deliberation period. Additionally, organizations may present their views through a representative organization in the TG. NAREAC members are:

FAA - Federal Aviation Administration
DOD - Department of Defense
ATA - Air Transport Association
NBAA - National Business Aircraft Association
RAA - Regional Airline Association
EAA - Experimental Aircraft Association
HAI - Helicopter Association International
ATCA - Air Traffic Control Association, Incorporated
SSA - Soaring Society of America
NOS - National Ocean Service
AOPA - Aircraft Owners and Pilots Association
USPA - United States Parachute Association
ATPI - Transport Canada
GAMA - General Aviation Manufacturers Association
NASAO - National Association of State Aviation Officials
ALPA - Air Line Pilots Association
AAAE - American Association of Airport Executives
AOCI - Airport Operators Council International, Incorporated
AIAA - American Institute of Aeronautics and Astronautics, Incorporated
APA - Allied Pilots Association
NATA - National Air Transport Association
AIA - Aerospace Industries Association
IATA - International Air Transport Association
NWS - National Weather Service
AHSI - American Helicopter Society, Incorporated
SENEAM - Servicios a la Navegacion en el Espacio Aereo Mexicano

TASK GROUPS (TG)

TG 1-1 Airspace for Special Use

MILITARY TRAINING ROUTES - (TG 1-1.1) completed.

Study Date: June 7, 1982. (3 weeks)

The Military Training Route program should be reviewed, on a national basis, to determine the adequacy of route depiction and information dissemination. An overall review of existing procedures for both DOD and FAA should be conducted in light of experience gained since the program began in 1978.

TEMPORARY SPECIAL USE AIRSPACE - (TG 1-1.2) completed.

Study Date: September 7, 1982. (3 weeks)

Temporary special use airspace should be studied for possible changes to increase efficiency of airspace usage. Areas to be reviewed are lead time requirements for charting and a means to accommodate composite training.

REAL-TIME JOINT USE - (TG 1-1.2) completed.

Study Date: September 7, 1982. (3 weeks)

The joint use of designated special use airspace requires close coordination and cooperation between using and controlling agencies. The concept of real-time joint use requires study to develop a means to effectively and efficiently administer its use.

SPECIAL USE AIRSPACE REQUIREMENT REVIEW - (TG 1-1.3) completed.

Study Date: November 8, 1982. (2 weeks)

Special use airspace should be reviewed, on a national level, to validate items such as establishment criteria, usage rates, and retention criteria.

SEPARATION FROM SPECIAL USE AIRSPACE - (TG 1-1.3) completed.

Study Date: November 8, 1982. (2 weeks)

Special use airspace is usually controlled by the using agency and released to them to conduct their activities. This has created concern over buffer zones and separation from special use airspace boundaries. A study is necessary to determine what, if any, separation requirements should be applied around these designated areas.

NATIONAL SECURITY AREAS - (TG 1-1.4) completed.

Study Date: January 31, 1983. (3 weeks)

The concept of National Security Areas is to provide protective airspace in areas which presently do not qualify for special use airspace designation. This area should be evaluated with regard to need, criteria, charting, application, and relationship to special use airspace.

FLIGHT TEST AREAS - (TG 1-1.4) completed.

Study Date: January 31, 1983. (3 weeks)

Flight test areas are presently not charted. A review of this type

of activity should be accomplished to determine the need for charting and the best method to depict these areas.

PART 73--REVIEW - (TG 1-1.5) completed.

Study Date: February 13, 1984. (2 weeks)

Part 73 of the Federal Aviation Regulations (FARs) concerns special use airspace. A review of special use airspace categories under Part 73 and related procedures under Handbook 7400.2 is necessary for adequacy and redefinition as they related to previous task assignments under this TG study.

PARTICIPANTS

Chairman--FAA

Department of Defense
Aerospace Industries Association
Aircraft Owners and Pilots Association
Experimental Aircraft Association
Helicopter Association International
National Association of State Aviation Officials
Air Transport Association
Air Line Pilots Association
FAA, Airspace-Rules and Aeronautical Information Division, AAT-200
FAA, Procedures Division, AAT-300
FAA, Western Pacific Region
FAA, Flight Service Station - Atlanta FSS
FAA, Southern Region Facility

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TG 1-2 Terminal Airspace

TERMINAL CONTROL AREAS - (TG 1-2.1) completed.

Study Date: June 7, 1982. (3 weeks)

Our intent is to review previous studies and reports concerning terminal control areas (TCA's) and develop recommendations for a concept(s) of controlled airspace necessary for the conduct of safe flight in the terminal environment. Criteria, design, simplicity, and applicability will be considered.

MANDATORY COMMUNICATION AREAS - (TG 1-2.2) completed.

Study Date: August 9, 1982. (3 weeks)

Terminal radar service areas (TRSA's) will be reviewed to determine validity of this airspace concept along with previous study assignments. Previous TRSA studies, safety, user needs, efficiency, and simplicity will be major factors in this review.

TERMINAL RADAR SERVICE AREAS (TG 1-2.2) completed.

Study Date: August 9, 1982. (3 weeks)

Terminal radar service areas (TRSA's) will be reviewed to determine validity of this airspace concept along with previous study assignments. Previous TRSA studies, safety, user needs, efficiency, and simplicity will be major factors in this review.

CONTROL ZONES, TRANSITION AREAS, AIRPORT TRAFFIC AREA EVALUATION - (TG 1-2.3) completed.

Study Date: October 4, 1982. (2 weeks)

There is growing concern over the present complexities of airspace assignments in terminal areas, including redundancies and overlap. A review of these areas will be conducted to simplify the entire concept.

STAGE II/III SERVICES EVALUATION - (TG 1-2.4) completed.

Study Date: November 29, 1982. (1 week)

Present ATC services in terminal areas are divided into Basic, Stage II, and Stage III. These services will be reviewed to validate pilot/controller understanding, requirements, and application within the air traffic system. Additionally, this review will consider what ATC services are necessary as they would relate to previous NAR studies.

ADDITIONAL SERVICES IFR/VFR - (TG 1-2.5) completed.

Study Date: April 11, 1983. (2 weeks)

In addition to its primary function, the ATC system has the capability to provide (with certain limitations) additional services. This area should be reviewed to determine if services provided are sufficient to meet the needs of the aviation community. The TG would be expected to make recommendations as to specific improvements that may be necessary.

UNCONTROLLED AIRPORTS - (TG 1-2.5B) completed.

Study Date: June 6, 1983. (1 week)

There is a need to review uncontrolled airports to improve the safety of operations and to simplify/clarify operating procedures. The task group will thoroughly review the clarification of authority, traffic patterns, mix of traffic, and noise abatement responsibilities at uncontrolled airports.

PARTICIPANTS

Chairman--FAA

Aircraft Owners and Pilots Association
Air Transport Association
Air Line Pilots Association
Department of Defense
National Business Aircraft Association
National Association of State Aviation Officials
Experimental Aircraft Association
Helicopter Association International
Regional Airline Association
FAA, Procedures Division, AAT-300
FAA, Airspace-Rules and Aeronautical Information Division, AAT-200

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TG 1-3 Routes

RANDOM ROUTES - (TG 1-3.1) completed.

Study Date: September 7, 1982. (3 weeks)

The FAA's "Operation Free Flight" data has been analyzed and results indicate considerable fuel savings can be achieved if a program of this nature is implemented. This TG will study the concept of random routes, in both low and high altitude structures, for implementation on a national basis.

ALTERNATE AIRWAY REDUCTION AND REIDENTIFICATION - (TG 1-3.2) completed.

Study Date: November 8, 1982. (2 weeks)

The present alternate airway structure is still based largely on nonradar separation standards. With the increased use of radar, a study is needed to evaluate the possibility of eliminating unnecessary alternate airways and reidentify remaining routes taking into consideration ICAO standards. This would also contribute to a reduction in chart clutter.

AIRWAY REALIGNMENT - (TG 1-3.2) completed.

Study Date: November 8, 1982. (2 weeks)

Jet routes and low altitude airways provide airspace protection, charted courses, and altitude information. A review of these routes is necessary to insure that they conform to existing traffic flows. Establishment and retention criteria of airways and jet routes should also be studied.

FIXED ROUTES (RNAV) EVALUATION - (TG 1-3.2) completed.

Study Date: November 8, 1982. (2 weeks)

The use of area navigation opens many avenues for flight in the Random Route area. An evaluation of the fixed route concept for RNAV use is necessary to determine continued justification.

SID/STAR EVALUATION - (TG 1-3.3) completed.

Study Date: February 22, 1983. (3 weeks)

While these routes and charts are of value to both pilot and controller, further study and evaluation is necessary regarding traffic flows and information depiction. A review is necessary to:

1. Determine their need.
2. Reduce complexity.
3. Simplify development criteria.
4. Insure system compatibility.

PREFERENTIAL ARRIVAL/DEPARTURE ROUTES - (TG 1-3.3) completed.

Study Date: February 22, 1983. (3 weeks)

These routes are designed to segregate traffic flows. This area should be evaluated for changes which will increase system efficiency and simplify the program while making this information available to the pilot.

JET ROUTES/AIRWAY MODELING - (TG 1-3.3) completed.

Study Date: February 22, 1983. (3 weeks)

A model for an improved airway/route structure should be developed to use in the En Route Navigation (VOR) Network Program.

ROUTE SYSTEM CONCEPT - (TG 1-3.4) completed.

Study Date: May 31, 1983. (3 weeks)

During its deliberations, TG 1-3.2 began to develop a high altitude

route system concept and requested that the NAR staff further refine this concept for subsequent review. Task Group 1-3.4 is charged with reviewing this high altitude route structure and route system concept and developing an optimized route system design concept.

PART 75 - ELIMINATION - (TG 1-3.5) completed.

Study Date: January 30, 1984. (2 weeks)

FAR Part 75, "Establishment of Jet Routes and Area High Routes," describes specific fixed routes from FL180 through FL450. This area should be reviewed for possible exclusion from the regulatory process since the associated airspace is already designated in Part 71.

PARTICIPANTS

Chairman--FAA

Air Transport Association
National Business Aircraft Association
Aircraft Owners and Pilots Association
Aerospace Industries Association
Regional Airline Association
Air Line Pilots Association
Department of Defense
Helicopter Association International
FAA, Office of Flight Operations, AFO-700 (Currently AFO-200)
FAA, Airspace-Rules and Aeronautical Information Division, AAT-200
FAA, Southern Region Facility
FAA, Southwest Region

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TG 1-4 Weather Programs

WEATHER DISSEMINATION - (TG 1-4.1) completed.

Study Date: July 6, 1982. (3 weeks)

A longstanding area of concern for the FAA and aviation community is accurate and timely dissemination of real-time weather information. Although future enhancements are being developed, studies must be done to improve existing methods of disseminating aviation weather.

PARTICIPANTS

Chairman--FAA

Aircraft Owners and Pilots Association
Allied Pilots Association
Air Transport Association
National Business Aircraft Association
Department of Defense
National Weather Service
FAA, System Plans and Programs Division, AAT-100
FAA, Procedures Division, AAT-300
FAA, New England Region

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TG 1-5 U.S./Canada/Mexico Interface (Government participation only)

FACILITY SHUTDOWN AGREEMENT - (TG 1-5.1) completed.

Study Date: June 21, 1982. (1 week)

More dependence has been placed on nondomestic facilities for use in the ATC system. However, there is no formal agreement insuring notification of shutdown of these facilities in sufficient time to allow for adjustment in procedures and airspace designation. This group will

develop a formal Memorandum of Agreement between nondomestic facilities to cover planned NAVAID shutdowns.

CANADIAN AIRSPACE CATEGORY REDEFINITION - (TG 1-5.2) completed.

Study Date: August 9, 1982. (2 weeks)

Canada is in the process of redefining its airspace, by category, to simplify their present system. A review of this action is needed to determine compatibility with the U.S. system or for possible U.S. adoption.

COMMON AIRSPACE AND PROCEDURES INTEGRATION - (TG 1-5.3) completed.

Study Date: September 12, 1983. (3 weeks)

Present airspace and procedural applications are different along U.S. border areas. This causes confusion among the flying public as well as control agencies. This group will study the feasibility of common procedures and airspace designation between the United States and Canada.

PARTICIPANTS

Chairman--FAA

Department of Defense
Transport Canada
FAA, Procedures Division, AAT-300
FAA, Maintenance Engineering Division, APM-100
FAA, Great Lakes Region
FAA, Northwest Mountain Region
FAA, Office of Flight Operations, AFO-700 (Currently AFO-200)
FAA, Alaska Region
FAA, New England Region

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TG 1-6 Charts

VFR CHARTING - (TG 1-6.1) completed.

Study Date: July 6, 1982. (3 weeks)

Efforts are underway to improve information depicted on VFR Charts. While a prototype series is planned, requirements and specifications need to be reviewed through the Interagency Air Cartographic Committee for evaluation.

RF CHARTS - (TG 1-6.2) completed.

Study Date: October 12, 1982. (2 weeks)

The present low and high altitude en route charts need review. Simplification and combination with military charting requirements should be considered. This would be in conjunction with Interagency Air Cartographic Committee efforts.

INSTRUMENT APPROACH PROCEDURE CHARTS - (TG 1-6.3) completed.

Study Date: January 3, 1983. (2 weeks)

A review of the charting aspects of Instrument Approach Procedures (IAP's) is needed for amount of data required, charted features, and format.

CHARTED VISUAL FLIGHT PROCEDURE CHARTS - (TG 1-6.3) completed.

Study Date: January 3, 1983. (2 weeks)

There is an increasing number of charted visual flight procedures and charts being developed. This area should be studied with regard to purpose, procedural application, and charting requirements.

SID AND STAR CHARTS AND THE AIRPORT/FACILITY DIRECTORY - (TG 1-6.4) completed.

Study Date: November 29, 1983. (3 weeks)

TG 1-6.4 will review Standard Instrument Departure (SID) and Standard Terminal Arrival (STAR) charts and the Airport/Facility Directory (A/FD). Specific user requirements for the portrayal of procedural information on SIDs and STARs will be identified, defined, and evaluated by the group, which will also address existing problems related to human factors considerations. The group will discuss the effectiveness of the A/FD, its role in disseminating information, and supplemental information that should be included. The goal of this review is to preserve and promote quality, clarity, simplicity, and useability of departure and arrival chart publications.

PARTICIPANTS

Chairman--FAA

Aircraft Owners and Pilots Association
Experimental Aircraft Association
Allied Pilots Association
Department of Defense
National Association of State Aviation Officials
National Business Aircraft Association
National Ocean Survey

Air Line Pilots Association
Air Transport Association
FAA, Southern Region
FAA, Western-Pacific Region
FAA, Procedures Division, AAT-300
FAA, Office of Flight Operations, AFO-700 (Currently AFO-200)

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TG 1-7 U.S. Airspace Reclassification

AIRSPACE CLASSIFICATION - (TG 1-7.1) completed.

Study Date: January 3, 1983. (2 weeks)

A review of current airspace designation, including a proposed model for a U.S. Airspace Classification which is similar to a Canadian Airspace Proposal. ICAO proposals will also be discussed.

AIRSPACE APPLICATION - (TG 1-7.2) completed.

Study Date: March 21, 1983. (3 weeks)

A model base for application of Airspace Classification needs to be developed and reviewed for national application.

PILOT REQUIREMENTS - (TG 1-7.3) completed.

Study Date: June 13, 1983. (2 weeks)

A review of airspace classification as it relates to pilot certification/requirement/endorsement to certificate is needed for possible simplification and application to each airspace category.

PARTICIPANTS

Chairman - FAA

Department of Defense
Air Transport Association
National Business Aircraft Association
Regional Airline Association
Experimental Aircraft Association
Helicopter Association International
Aircraft Owners and Pilots Association
Air Line Pilots Association
Transport Canada/Mexico
FAA, Procedures Division, AAT-300
FAA, New England Region
FAA, Northwest Mountain Region
FAA, Airspace-Rules and Aeronautical Information Division, AAT-200
FAA, Office of Policy and International - API-5
FAA, Office of Flight Operations - AFO-800

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TG 2-1 Traffic Flow Management

SEVERE WEATHER AVOIDANCE PLAN EVALUATION - (TG 2-1.1) completed.

Study Date: May 9, 1983. (2 weeks)

A review, on a national basis, of the Severe Weather Avoidance Plan is necessary to determine:

1. Effectiveness of the present plan.
2. Changes that may be necessary for improvement.
3. The continued need for the plan.

FLOW MANAGEMENT - (TG 2-1.2) completed.

Study Date: September 7, 1983. (3 weeks)

A review of the effectiveness of flow management on a national level.

PARTICIPANTS

Chairman - FAA

Regional Airline Association
Air Transport Association
National Business Aircraft Association
Department of Defense
Air Line Pilots Association
General Aviation Manufacturers Association
FAA, Great Lakes Region
FAA, Automation Division, AAT-500
FAA, Procedures Division, AAT-300
FAA, Boston ARTCC
FAA, Southwest Region
FAA, New York ARTCC
FAA, Operations Division, AAT-400

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TG 2-2 Separation Standards

SEPARATION REVIEW (General) - (TG 2-2.1) completed.

Study Date: June 13, 1983. (3 weeks)

A review of separation standards as applicable in today's ATC radar environment and based on aircraft operating characteristics such as size and speed, with further consideration of airway acceptance and other identifiable factors which may increase the airport acceptance rate without decreasing safety. Appropriate separation standards in the En Route environment will also be reviewed.

TRAFFIC SEGREGATION BY CATEGORY - (TG 2-2.2) completed.

Study Date: August 15, 1983. (3 weeks)

A look at the feasibility of separating aircraft and runway use by specific aircraft categories is needed. Procedures may be developed for some airports using this concept.

IFR DEPARTURE PROCEDURES - (TG 2-2.2) completed.

Study Date: August 15, 1983 (3 weeks)

A review of IFR departure procedures relative to proposed FAA Order 7110.65C change (AAT-320-82-6) is necessary. Topics to be covered will include procedural applications, terminology definitions, pilot and controller responsibilities, and diverse departures.

SPECIAL VFR SEPARATION REVIEW - (TG 2-2.3) completed.

Study Date: April 2, 1984. (2 weeks)

A close look is required at Special VFR procedures and their application. This session will address both procedural and regulatory requirements of SVFR, including the high density airport control zones listed in FAR 93.113, within which SVFR weather minimums are not authorized for fixed-wing aircraft.

PARACHUTE, GLIDER AND ULTRALIGHTS OPERATIONS - (TG 2-2.4) completed.

Study Date: January 4, 1984. (2 weeks)

Parachute, glider, and recently, the ultralight operations, are increasing in number and are having more effect on the ATC system. These areas need review with regard to impact, information dissemination, and

advisory/flight-following services.

PARTICIPANTS

Chairman--FAA

Air Traffic Control Association
Allied Pilots Association
Helicopters Association International
Department of Defense
Regional Airline Association
Aircraft Owners and Pilots Association
Air Transport Association
Air Line Pilots Association
FAA, Great Lakes Region
FAA, Oakland ARTCC
FAA, Office of Flight Operations, AFO-700 (Currently AFO-200)
FAA, Los Angeles TRACON
FAA, Southern Region
FAA, Procedures Division, AAT-300

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TG 2-3 FAR Simplification and Reduction

PART 91 - SUBPART B EVALUATION - (TG 2-3.1) completed.

Study Date: April 30, 1984. (3 weeks)

Subpart B, "Flight Rules," of Part 91 needs review for simplification and reduction of regulations. This would include associated equipment requirements.

PART 77 - REWRITE - (TG 2-3.2) completed.

Study Date: July 9, 1984. (2 weeks)

Part 77, "Objects Affecting Navigable Airspace," is an area which should be analyzed and rewritten for simplification and clarity.

MEDIUM ALTITUDE COMMUNICATIONS AREA - (TG 2-3.4) completed.

Study Date: September 5, 1984 (2 weeks)

The TG will review the transponder, two-way radio, and communications requirements, as well as the associated ATC procedures/services for flight operations between 10,000 and 18,000 feet above sea level.

PARTICIPANTS

Chairman--FAA

Airline Pilots Association
Regional Airline Association
Aircraft Owners and Pilots Association
Department of Defense
National Business Aircraft Association
National Air Transportation Association
Aerospace Industries Association
National Association of State Aviation Officials
Helicopter Association International
FAA, Regulations and Enforcement Division, AGC-200
FAA, Central Region
FAA, Office of Flight Operations, AFO-700 (Currently AFO-200)
FAA, Airspace-Rules and Aeronautical Information Division, AAT-200

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TG 2-4 Helicopter Operations

HELICOPTER SEPARATION - (TG 2-4.1) completed.

Study Date: February 22, 1983. (3 weeks)

The unique operating characteristics of helicopters and their increasing use in the ATC system require a review of separation criteria presently employed with the possibility of reduction in some instances.

HELICOPTER ROUTES - (TG 2-4.2) completed.

Study Date: May 2, 1983. (2 weeks)

The possibility of special routes into and out of major terminals that would avoid the standard flow of traffic should be evaluated. This would provide the needed flexibility to make maximum use of terminal airspace while meeting the needs of the helicopter community.

HELICOPTER CHARTS - (TG 2-4.3) completed.

Study Date: August 1, 1983. (2 weeks)

The concept of separate charts for helicopters should be evaluated to provide the specialized information required to meet their needs. This group would make recommendations on:

1. The need for separate charts.
2. What should be depicted.

HELICOPTER INSTRUMENT APPROACH PROCEDURES - (TG 2-4.4) completed.

Study Date: July 30, 1984. (2 weeks)

The possibility of special helicopter instrument approach procedures with reduced development criteria and minima should be evaluated. Associated weather information dissemination requirements unique to rotorcraft operations will also be studied.

PARTICIPANTS

Chairman--FAA

National Business Aircraft Association
Department of Defense
Helicopter Association International

Air Transport Association
National Air Transportation Association
National Association of State Aviation Officials
American Helicopter Society, Inc.
FAA, Southern Region
FAA, Eastern Region
FAA, Office of Flight Operation, AFO-700 (Currently AFO-200)
FAA, Office of Airport Standards, AAS-100
FAA, Houston ARTCC
FAA, Southwest Region
FAA, Rotorcraft Program Office, ARO-1

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TG 2-5 ARTCC Infrastructure (Government participation only)

NATIONAL BEACON CODE ALLOCATION PLAN (NBCAP) - (TG 2-5.1) completed.

Study Date: May 2, 1983. (1 week)

A review should be conducted with regard to the concept of NBCAP, its adequacy for providing code allocation, and operational effectiveness.

PARTICIPANTS

Chairman--FAA

Department of Defense
FAA, Great Lakes Region
FAA, Southern Region
FAA, Eastern Region
FAA, Southwest Region
FAA, Central Region
FAA, Alaskan Region
FAA, Northwest Mountain Region
FAA, Western-Pacific Region
FAA, New England Region
FAA, Operations Division, AAT-400
FAA, Procedures Division, AAT-300
FAA, Automation Division, AAT-500

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TG 3-1 National Flight Data System

NOTAM EVALUATION - (TG 3-1.1) completed.

Study Date: July 5, 1983. (5 weeks)

The Notice to Airmen system has grown complex and large. It should be reviewed for simplification, recategorization, and dissemination improvement.

FLIGHT DATA DISSEMINATION - (TG 3-1.1) completed.

Study Date: July 5, 1983. (5 weeks)

The amount of information available to the flying public is growing at an increasing rate. This area needs study to determine adequacy and priority in regard to user requirements. It should also include military activity and airport information.

FLIGHT PLAN FORMAT - (TG 3-1.2) completed.

Study Date: November 14, 1983. (1 week)

There are presently separate requirements and format for international, military, and civil flight planning. Each flight plan requirement should be studied for commonality and possible combination into one, simple, uniform format.

AIRMAN'S INFORMATION MANUAL FORMAT/STRUCTURE - (TG 3-1.3) completed.

Study Date: June 4, 1984. (3 weeks)

Review the format and structure for improvements in utility and

readability. Examine production/revision cycles and distribution methodology for timely presentation of information and maximum availability of the publication.

AIRPORT INFORMATION SERVICE - (TG 3-1.4) completed.

Study Date: May 14, 1984. (1 week)

A review of the use and content of airport information service broadcasts is necessary. There is a need to identify essential and nonessential information to keep these broadcasts short and concise.

AIRMAN'S INFORMATION MANUAL ORGANIZATION - (TG 3-1.5) completed.

Study Date: September 10, 1984 (3 weeks)

Review the requirements for airmen information relative to reasonably prudent flight planning and airmen awareness. Examine the organizational presentation of the required flight information relative to the sequential phases of flight and logical grouping. Include a review for appropriateness of content changes/additions/deletions recommended by any previous NARE task group.

AIRPORT OPERATIONS - PROCEDURES COVERING RUNWAY SURFACE CONDITIONS - (TG 3-1.6) completed.

Study Date: August 6, 1984 (2 weeks)

Review detection and display equipment currently available and in use from the standpoint of operational shortcoming/limitations, standardized utilization, and what kind of information is available to whom

and when. Examine how best to educate airport users on use of equipme and whether equipment design should be tailored to specific types of aircraft.

AIRMAN'S INFORMATION MANUAL CONTENT - (TG 3-1.7) completed.

Study Date: November 13, 1984 (1 week)

Review and consider appropriate content changes/additions/deletio as suggested as well as perform a review of a reorganized prototype of the manual. Emphasis will be placed on the content of materials to be included in an expanded section on aviation weather.

DOCUMENTING TRAFFIC COUNT - (TG 3-1.8)

Study Date: December 3, 1984 (2 weeks)

Traffic count procedures are important when considering the differences between air carriers, air taxis, commuters, and general aviation operations. National standardization of air traffic count procedures, as they apply to categorizing user operations, should be achieved.

PARTICIPANTS

Chairman--FAA

Air Line Pilots Association
International Air Transport Association
Helicopter Association International
Aircraft Owners and Pilots Association
Department of Defense
Regional Airlines Association
National Business Aircraft Association
Airport Operators Counsel International
National Association of State Aviation Officials
Air Transport Association

FAA, System Plans and Programs Division, ATR-100
FAA, Airspace-Rules and Aeronautical Information Division, ATO-200
FAA, Operations Division, ATO-400
FAA, Office of Airport Standards, AAS-300
FAA, Great Lakes Region
FAA, Alaskan Region
FAA, Washington FSS

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TG 3-2 Oceanic

INTERNATIONAL DELEGATED AIRSPACE - (TG 3-2.1) completed.

Study Date: January 4, 1984. (3 weeks)

The area from the continental limits to the Flight Information Region (FIR)/Control Area (CTA) lacks commonality and creates confusion in airspace designation and procedural application. This area should be reviewed for simplification.

PARTICIPANTS

Chairman--FAA

Air Transport Association
Department of Defense
International Air Transport Association
Helicopter Association International
National Air Transportation Association
Aerospace Industries Association
FAA, Procedures Division, AAT-300
FAA, Office of International Affairs, AIA-100
FAA, Southern Region
FAA, Alaskan Region
FAA, Eastern Region

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TG 3-3 Handbook Reorganization

(Government participation only)

The following FAA handbooks should be updated with regard to state-of-the-art improvements and also reorganized to put data in a more logical subject-related order for easier reference.

FAA Order 7110.10 - FLIGHT SERVICES - (TG 3-3.1) completed.

Study Date: August 20, 1984. (2 weeks)

PARTICIPANTS

Chairman--FAA

Department of Defense
FAA, System Plans and Programs Division, AAT-100
FAA, Airspace-Rules and Aeronautical Information Division, AAT-200
FAA, Procedures Division, AAT-300
FAA, New England Region
FAA, Central Region
FAA, Atlanta FSS
FAA, Dayton FSS

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TG 3-4 Handbook Reorganization (Procedures)

(Government participation only)

The organizational structure of the following FAA handbooks should be reviewed and recommendations made to make data easier to find. The direction of this study is more toward structure than content except TG 3-4.3 will address content of the Special Military Operations Handbook.

FAA Order 7610.4 - SPECIAL MILITARY OPERATIONS - (TG 3-4.3) completed.

Study Date: September 17, 1984. (2 weeks)

FAA Order 7210.7 - FLOW CONTROL PROCEDURES - (TG 3-4.4) completed.

Study Date: January 30, 1984. (2 weeks)

PARTICIPANTS

Chairman - FAA

Department of Defense
FAA, Procedures Division, AAT-300
FAA, Operations Division, AAT-400
FAA, Airspace-Rules and Aeronautical Information Division, AAT-200
FAA, Western-Pacific Region
FAA, Northwest Mountain Region
FAA, Washington ARTCC
FAA, Air Traffic Control Tower, Washington National ATCT
FAA, Washington FSS

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2/4 FSS Inflight No. 1 - (TG 4-4.1)
3/11 West Coast Consolidation - (TG 4-2.2)
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2/3 Rotorcraft/STOL Center City Complex - (TG 4-5.2)
3/3 Mode S/Data Link Military Utilization - (TG 5-2.1)
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2/1 Advanced Oceanic Automation No. 1 - (TG 4-2.5)
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1/9 Enhanced Emergency Services No. 1 - (TG 6-2.3)
2/6 Advanced Oceanic Automation No. 2 - (TG 4-2.6)
4/3 FSS Preflight No. 3 - (TG 4-4.7)
9/11 FSS Inflight No. 3 - (TG 4-4.8)
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1990

1/8 Integrated FSS Systems No. 2 - (TG 4-4.9)
1/22 Enhanced Emergency Services No. 2 - (TG 6-2.4)

ADDITIONAL STUDIES

TASK GROUPS (TG)

TG 4-1 Weather Services

ROTORCRAFT/STOL SPECIAL WEATHER PROVISIONS - (TG 4-1.1)

Study Date: November 11, 1985 (2 weeks)

Special procedures and regulations should be considered in light of unique operating capabilities of this category of aircraft.

AUTOMATED WEATHER DATA APPLICATIONS - (TG 4-1.2)

Study Date: April 21, 1986 (2 weeks)

This study would examine how best to use, in the operational IFR and VFR areas, the data received from automated weather detection and reporting systems. The task should review regulations, procedures, priorities of pilot reports versus automated data, the need (or lack of need) for review of automated data before dissemination, the frequency of update from automated sensors and the degree of conformance required between various weather data sources.

COMPLETE WEATHER SYSTEM INTEGRATION - (TG 4-1.3)

Study Date: May 9, 1988 (2 weeks)

The continuing advancement of weather detection/distribution systems requires a complete consideration of the total weather procedures responsibilities as well as the levels of service for all classes of aircraft.

PARTICIPANTS

Air Traffic Control Association
National Association of State Aviation Officials
Aircraft Owners and Pilots Association
Regional Airline Association
Air Transport Association
Experimental Aircraft Association
National Business Aircraft Association
Helicopter Association International
American Helicopter Society, Inc.
Air Line Pilots Association
Allied Pilots Association
National Weather Service
Department of Defense
United States Coast Guard
FAA, Office of Aviation Safety, ASF-1
FAA, Associate Administrator for Aviation Standards, AVS-1
FAA, Procedures Division, ATO-300
FAA, Rotorcraft Program Office, ARO-1
FAA, System Plans and Programs Division, ATR-100
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Central Region
FAA, Southwest Region

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TG 4-2 Oceanic Service

EAST COAST CONSOLIDATION - (TG 4-2.1)

(Government participation only)

Study Date: January 21, 1985 (2 weeks)

The decision has been made to consolidate east coast oceanic operations into one facility. Review of airspace delegations with a view toward boundary and sector adjustments will be conducted. Sequencing and timing of changes must be developed as well as identification of all interfaces.

WEST COAST CONSOLIDATION - (TG 4-2.2)

(Government participation only)

Study Date: March 11, 1985 (2 weeks)

The decision has been made to consolidate west coast oceanic operations into one facility. Review of airspace delegations with a view toward boundary and sector adjustments will be conducted. Sequencing and timing of changes must be developed as well as identification of all interfaces.

EAST COAST OCEANIC DISPLAY AND PLANNING SYSTEM APPLICATIONS - (TG 4-2.3)

Study Date: April 8, 1985 (2 weeks)

Implementation of oceanic display and planning system will require a review of how data will be formatted, utilized, and distributed. Sector layouts, number of sectors, route system displays, procedural adjustments, phraseology modifications, consideration of flow management aspects and most effective use of the delivered software should be examined.

WEST COAST OCEANIC DISPLAY AND PLANNING SYSTEM APPLICATIONS - (TG 4-2.4)

Study Date: January 6, 1986 (2 weeks)

Implementation of oceanic display and planning system will require a review of how data will be formatted, utilized, and distributed. Sector layouts, number of sectors, route system displays, procedural adjustments, phraseology modifications, consideration of flow management aspects and most effective use of the delivered software should be examined.

ADVANCED OCEANIC AUTOMATION NO. 1 (TG 4-2.5)

Study Date: February 1, 1988 (2 weeks)

As additional capabilities of the oceanic display and planning system are available, consideration of potential reduced separation standards, fuel efficiency, enhanced flow management, and rotorcraft applications should be examined.

ADVANCED OCEANIC AUTOMATION NO. 2 - (TG 4-2.6)

Study Date: February 6, 1989 (2 weeks)

As the advanced automation system unfolds, airspace, as well as procedures, separation standards, and regulatory adjustments should be addressed.

PARTICIPANTS

Air Transport Association
National Business Aircraft Association
Department of Defense
Air Line Pilots Association
Allied Pilots Association
International Air Transport Association
Aircraft Owners and Pilots Association
Transport Canada
Servicios a la Navegacion en el Espacio Aereo Mexicano
National Weather Service
United States Coast Guard
FAA, System Plans and Programs Division, ATR-100
FAA, Procedures Division, ATO-300
FAA, Operations Division, ATO-400
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Office of International Aviation, AIA-1
FAA, Eastern Region
FAA, Southern Region
FAA, Western-Pacific Region
FAA, Southwest Region
FAA, Alaskan Region

FAA, New York Oceanic
FAA, Oakland Oceanic
FAA, Miami Oceanic

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TG 4-3 Microwave Landing System Procedures and Airspace

MICROWAVE LANDING SYSTEM APPLICATIONS - (TG 4-3.1)

Study Date: May 13, 1985 (2 weeks)

Microwave Landing System has been adopted by ICAO member states as the world standard to replace Instrument Landing System. Microwave Landing System provides full range (civil/military) operational requirements including multiple approach courses and selectable glide paths with precision distance measuring equipment. The full spectrum of resultant adjustments to associated procedures, regulations, and airspace assignments should be reviewed and include study of microwave landing system application for situations such as wake turbulence avoidance, noise abatement, and aircraft segregation from excluded airspace in terminal areas.

PARTICIPANTS

National Association of State Aviation Officials
Air Line Pilots Association
Allied Pilots Association
Aircraft Owners and Pilots Association
Helicopter Association International
Air Transport Association
Regional Airline Association
National Air Transportation Association
International Air Transport Association

Transport Canada
Servicios a la Navegacion en el Espacio Aereo Mexicano
National Business Aircraft Association
National Ocean Service
Department of Defense
United States Coast Guard
FAA, System Plans and Programs Division, ATR-100
FAA, Airspace-Rules and Aeronautical Information Division, ATO-200
FAA, Procedures Division, ATO-300
FAA, Operations Division, ATO-400
FAA, National Planning Division, APP-400
FAA, Office of Flight Operations, AFO-1
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Office of Aviation Safety, ASF-1
FAA, Central Region
FAA, Northwest Mountain Region
FAA, Office of Airport Standards, AAS-1

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TG 4-4 Flight Service Station Services

In light of the numerous automation enhancements under the NAS plan and their associated increases in flight information services capability, a review of traditional FSS functions and service motivations should be conducted. To review the broad spectrum of services and automation enhancements, a total of nine study groups are planned over a four year period.

FLIGHT SERVICE STATION INFLIGHT NO. 1 - (TG 4-4.1)

Study Date: February 4, 1985 (2 weeks)

FLIGHT SERVICE STATION PREFLIGHT NO. 1 - (TG 4-4.2)

Study Date: September 9, 1985 (2 weeks)

ROTORCRAFT/STOL FLIGHT INFORMATION - (TG 4-4.3)

Study Date: April 7, 1986 (2 weeks)

FLIGHT SERVICE STATION PREFLIGHT NO. 2 - (TG 4-4.4)

Study Date: January 19, 1987 (2 weeks)

FLIGHT SERVICE STATION INFLIGHT NO. 2 - (TG 4-4.5)

Study Date: September 14, 1987 (2 weeks)

INTEGRATED FLIGHT SERVICE STATION SYSTEMS NO. 1 - (TG 4-4.6)

Study Date: November 28, 1988 (2 weeks)

FLIGHT SERVICE STATION PREFLIGHT NO. 3 - (TG 4-4.7)

Study Date: April 3, 1989 (2 weeks)

FLIGHT SERVICE STATION INFLIGHT NO. 3 - (TG 4-4.8)

Study Date: September 11, 1989 (2 weeks)

INTEGRATED FLIGHT SERVICE STATION SYSTEMS NO. 2 - (TG 4-4.9)

Study Date: January 8, 1990 (2 weeks)

PARTICIPANTS

National Association of State Aviation Officials
National Business Aircraft Association
Experimental Aircraft Association
Aircraft Owners and Pilots Association
Helicopter Association International
Regional Airline Association

National Air Transportation Association
Air Traffic Control Association
National Weather Service
Department of Defense
United States Coast Guard
FAA, Procedures Division, ATO-300
FAA, Airspace-Rules and Aeronautical Information Division, ATO-200
FAA, Operations Division, ATO-400
FAA, Office of Flight Operations, AFO-1
FAA, Office of Aviation Policy and Plans, APO-1
FAA, System Plans and Programs Division, ATR-100
FAA, Rotorcraft Program Office, ARO-1
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Central Region
FAA, Southwest Region

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TG 4-5 Rotorcraft/STOL Operations

ROTORCRAFT/STOL TERMINAL OPERATIONS - (TG 4-5.1)

Study Date: June 10, 1985 (2 weeks)

Increased IFR/VFR demand resulting from anticipated system enhancements and greater ground capacity will require airspace and procedural adjustments to meet the changing environment.

ROTORCRAFT/STOL CENTER CITY COMPLEX - (TG 4-5.2)

Study Date: February 3, 1986 (2 weeks)

Increased rotorcraft and STOL operations and city complexes require operational consideration of route structures, inter- and intra-city systems. Regulations, separation standards, procedures, and unique airspace allocations should be addressed.

ROTORCRAFT/STOL RANDOM OPERATIONS - (TG 4-5.3)

Study Date: June 1, 1987 (2 weeks)

As new navigation systems enter the system, adjustments to the airspace, procedures, regulations, and phraseology should be addressed in those areas beyond the city complexes and in some cases within the city complexes.

FAR 91 ROTORCRAFT/STOL PROVISIONS - (TG 4-5.4)

Study Date: September 12, 1988 (2 weeks)

Existing flight rules may be unnecessary, too restrictive, or inadequate for future rotorcraft/STOL operations. New regulations should be explored and existing ones validated in relationship to expanded low altitude system demands.

PARTICIPANTS

National Business Aircraft Association
Helicopter Association International
American Helicopter Society, Inc.
Aircraft Owners and Pilots Association
National Association of State Aviation Officials
Department of Defense
Experimental Aircraft Association
National Ocean Service
United States Coast Guard
FAA, Airspace-Rules and Aeronautical Information Division, ATO-200
FAA, Procedures Division, ATO-300
FAA, Eastern Region, Air Traffic Division, AEA-500
FAA, Southwest Region, Air Traffic Division, ASW-500
FAA, Office of Flight Operations, AFO-1
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Rotorcraft Program Office, ARO-1
FAA, Southwest Region
FAA, Alaskan Region
FAA, New England Region

FAA, Central Region
FAA, Western Pacific Region
FAA, Great Lakes Region

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TG 4-6 Airport Surface Detection Equipment

ENHANCED AIRPORT SURFACE DETECTION EQUIPMENT APPLICATIONS - (TG 4-6.1)

Study Date: January 7, 1985 (2 weeks)

With enhanced airport surface detection equipment, the capability for a revolutionary change in management of airport ground traffic has emerged. User/provider study of airport surface detection equipment systems and their capabilities is necessary to modify procedures, phraseology, and achieve national standardization.

PARTICIPANTS

Department of Defense
National Association of State Aviation Officials
Air Transport Association
Regional Airline Association
Air Line Pilots Association
Allied Pilots Association
Air Traffic Control Association
National Business Aircraft Association
Helicopter Association International
Aircraft Owners and Pilots Association
FAA, System Programs, ATR-100
FAA, Procedures Division, ATO-300
FAA, ATC Operations Division, ATO-400
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Office of Aviation Safety, ASF-1

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TG 4-9 Airborne Based Navigation

GLOBAL POSITIONING SYSTEM - (TG 4-9.1)

Study Date: April 29, 1985

In view of the near term availability of the Global Positioning System (GPS), a functional review of procedures, phraseology, and other operational considerations will be conducted.

PARTICIPANTS

Air Transport Association
National Business Aircraft Association
Department of Defense
Air Line Pilots Association
International Air Transport Association
Aircraft Owners and Pilots Association
Transport Canada
Servicios a la Navegacion en el Espacio Aereo Mexicano
United States Coast Guard
FAA, Office of Aviation Safety, ASF-1
FAA, System Plans and Programs Division, ATR-100
FAA, Procedures Division, ATO-300
FAA, Operations Division, ATO-400
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Office of International Aviation, AIA-1
FAA, Office of Flight Operations, AFO-1
FAA, Aviation Standards National Field Office, AVN-1
FAA, Eastern Region
FAA, Southern Region
FAA, Southwest Region
FAA, Alaskan Region

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TG 5-1 Wind Shear

WIND SHEAR PROCEDURES - (TG 5-1.1)

Study Date: June 2, 1986 (2 weeks)

Advancements in detecting and reporting hazardous wind is expected to generate adjustments in air traffic control procedures and priorities with the added potential for regulatory changes. These areas should be addressed for national standardization.

PARTICIPANTS

Air Line Pilots Association
Allied Pilots Association
Air Transport Association
Regional Airline Association
Aircraft Owners and Pilots Association
Experimental Aircraft Association
National Business Aircraft Association
Helicopter Association International
National Weather Service
Department of Defense
FAA, Office of Aviation Safety, ASF-1
FAA, System Plans and Programs Division, ATR-100
FAA, Procedures Division, ATO-300
FAA, Operations Division, ATO-400
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Flight Operations, AFO-1
FAA, Rotorcraft Program Office, ARO-1
FAA, Central Region
FAA, Western Pacific Region
FAA, Southwest Region

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TG 5-2 MODE "S"/DATA LINK

MODE S/DATA LINK MILITARY UTILIZATION - (TG 5-2.1)

Study Date: March 3, 1986 (2 weeks)

This study reviews how military operations can be enhanced with MODE S as well as mix of non-equipped aircraft. Potential for adjustments of separation concepts under airspace delegation as well as procedural adjustments should be examined.

MODE S/DATA LINK TERMINAL OPERATIONS - (TG 5-2.2)

Study Date: January 5, 1987 (2 weeks)

Procedural and phraseology adjustments will be necessary to effectively utilize this system capability. Also, dual system operations where aircraft are not equipped should be addressed.

MODE S/DATA LINK EN ROUTE OPERATIONS - (TG 5-2.3)

Study Date: February 2, 1987 (2 weeks)

Procedural and phraseology adjustments will be necessary to effectively utilize this system capability. Also dual system operations where aircraft are not equipped should be addressed.

MODE S/DATA LINK ROTORCRAFT/STOL OPERATIONS - (TG 5-2.4)

Study Date: June 6, 1988

Mode S/Data Link rotorcraft/STOL operations, procedures, and regulations will be examined with an eye toward modification of the operations of low altitude aircraft. Separation standards would be reviewed.

PARTICIPANTS

National Association of State Aviation Officials
Regional Airline Association
Helicopter Association International
National Air Transportation Association
Allied Pilots Association
Aircraft Owners and Pilots Association
Department of Defense
FAA, System Plans and Programs Division, ATR-100
FAA, Airspace-Rules and Aeronautical Information Division, ATO-200
FAA, Procedures Division, ATO-300
FAA, Operations Division, ATO-400
FAA, Office of Flight Operations, AFO-1
FAA, Rotorcraft Program Office, ARO-1
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Office of Aviation Safety, ASF-1

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TG 5-3 Traffic Management System (TMS)

TRAFFIC MANAGEMENT SYSTEM CONCEPTS - (TG 5-3.1)

Study Date: May 5, 1986 (2 weeks)

The evolution from flow control to flow management to traffic management system should be preceded, or at least accompanied, by an interchange of user/provider viewpoints on the operational considerations associated with these very complex programs. Current flow management techniques/procedures should be validated, and questions such as integration of diverse activities and methodology for effective departure metering should be examined.

ALTITUDE RESERVATION REQUIREMENTS UNDER TRAFFIC MANAGEMENT SYSTEM - (TG 5-3.2)

Study Date: November 3, 1986 (2 weeks)

Military readiness, Presidential, and other Heads of State movements, and other situations require altitude reservations administered by the central altitude reservation facility. Review should be conducted of altitude reservation requirements under the traffic management system concept.

SECTOR LOADING - (TG 5-3.3)

(Government participation only)

Study Date: October 31, 1988 (2 weeks)

Factors for determining sector loading, an essential element in traffic management, will change relative to system enhancements. Early identification of such factors will ease development of operational concepts for advanced traffic management systems and influence adjustment to current procedures/techniques. Integration of military and other diverse activities, and the consolidation of the many flow management related facilities, generates a potential for complexity that should be reviewed.

PARTICIPANTS

Aircraft Owners and Pilots Association
Air Transport Association
Regional Airline Association
Air Line Pilots Association
Allied Pilots Association

Air Traffic Control Association
National Business Aircraft Association
National Air Transportation Association
National Weather Service
Department of Defense
FAA, Office of Aviation Safety, ASF-1
FAA, System Plans and Programs Division, ATR-100
FAA, Procedures Division, ATO-300
FAA, Operations Division, ATO-400
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Central Region
FAA, Western Pacific Region

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TG 5-4 En Route Metering

EN ROUTE ADVANCED METERING - (TG 5-4.1)

Study Date: January 20, 1986 (2 weeks)

As the en route metering system advances in its development and capacity, adjustments to the dissemination of data utilized inter- and intra-facility should be addressed. Procedures for the utilization of the functions as well as national standardization should be examined.

TERMINAL/LOW ALTITUDE METERING INTEGRATION (TG 5-4.2)

Study Date: April 6, 1987 (2 weeks)

Additional capabilities and advanced metering will provide the potential for more completed involvement of all users in the locations where metering will be utilized. The addition of metering to satellite airports identified in the reliever programs will enhance system capacity. National standards as well as regulations will be addressed.

PARTICIPANTS

Aircraft Owners and Pilots Association
Air Transport Association
Regional Airline Association
Air Line Pilots Association
Air Traffic Control Association
National Business Aircraft Association
National Air Transportation Association
Department of Defense
FAA, Office of Aviation Safety, ASF-1
FAA, System Plans and Programs Division, ATR-100
FAA, Procedures Division, ATO-300
FAA, Operations Division, ATO-400
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, National Planning Division, APP-400
FAA, Southwest Region
FAA, Eastern Region
FAA, Western-Pacific Region
FAA, Northwest Mountain Region
FAA, Great Lakes Region

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TG 5-5 Automated Conflict Alert/Resolution

CONFLICT ALERT - (TG 5-5.1)

Study Date: September 8, 1986 (2 weeks)

Before moving into more sophisticated automated conflict probes, a review/validation of current procedures for, and utilization of, conflict alert should be conducted. Questions regarding national operating standards should be addressed.

CONFLICT RESOLUTION NO. 1 - (TG 5-5.2)

Study Date: March 16, 1987 (2 weeks)

Automated conflict resolution advisories offer a potential basis for significant procedural and perhaps even regulatory adjustments. Ques-

tions will be addressed such as: what controller procedures should apply with respect to IFR and VFR aircraft; can less separation be applied - particularly en route; and what operating rules cannot be accommodated.

CONFLICT RESOLUTION NO. 2 - (TG 5-5.3)

Study Date: November 6, 1989 (2 weeks)

Advanced automation functions under the advanced automation systems should be examined and the need for operational adjustments identified.

PARTICIPANTS

Air Traffic Control Association
Aircraft Owners and Pilots Association
Air Transport Association
Regional Airline Association
Air Line Pilots Association
Allied Pilots Association
National Business Aircraft Association
Department of Defense
FAA, Office of Aviation Safety, ASF-1
FAA, System Programs, ATR-100
FAA, Procedures Division, ATO-300
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Western Pacific Region
FAA, Office of Flight Operations, AFO-1

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TG 6-1 Terminal Services

LEVEL II/III TERMINAL FACILITIES - (TG 6-1.1)

Study Date: February 23, 1987 (2 weeks)

In concert with NAS plan projects for modernization, user/provider study groups would be provided the opportunity to review traditional

terminal services and motivations in determining user needs.

LEVEL IV/V TERMINAL FACILITIES - (TG 6-1.2)

Study Date: May 4, 1987 (2 weeks)

In concert with NAS plan projects for modernization, user/provider study groups would be provided the opportunity to review traditional terminal services and motivations in determining user needs.

JOINT CIVIL/MILITARY TERMINAL FACILITIES - (TG 6-1.3)

(Government participation only)

Study Date: April 4, 1988 (2 weeks)

In concert with NAS plan projects for modernization, user/provider study groups would be provided the opportunity to review traditional terminal services and motivations in determining user needs.

PARTICIPANTS

Aircraft Owners and Pilots Association
Air Transport Association
Regional Airline Association
Air Line Pilots Association
Allied Pilots Association
Helicopter Association International
National Air Transportation Association
Experimental Aircraft Association
National Business Aircraft Association
Air Traffic Control Association
National Association of State Aviation Officials
Department of Defense
FAA, System Plans and Programs Division, ATR-100
FAA, Procedures Division, ATO-300
FAA, Operations Division, ATO-400
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Director, Office of Airport Standards, AAS-1
FAA, Central Region
FAA, Southwest Region

FAA, Northwest Mountain Region
FAA, Office of Aviation Policy and Plans, APO-1
FAA, Office of Airport Planning and Programming

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TG 6-2 Emergency Services

SEARCH AND RESCUE OPERATIONS - (TG 6-2.1)

Study Date: November 2, 1987 (2 weeks)

A functional review of air traffic control's role in search and rescue operations should be conducted.

DIRECTION FINDING MODERNIZATION - (TG 6-2.2)

Study Date: January 4, 1988 (2 weeks)

In addition to equipment upgrades, some expansion of direction finding coverage and operator equipment is planned. Procedures, phraseology, and other operational adjustments will be addressed.

ENHANCED EMERGENCY SERVICES NO. 1 - (TG 6-2.3)

Study Date: January 9, 1989 (2 weeks)

A functional review of emergency services provided by air traffic control and flight assistance service facilities should be conducted. Identification of user requirements for additional and/or different services in light ot system enhancements as well as validation of current priorities for emergency services should be pursued. Two sessions are scheduled.

ENHANCED EMERGENCY SERVICES NO. 2 - (TG 6-2.4)

Study Date: January 22, 1990 (2 weeks)

A second session is needed to accommodate follow-on task group action for this far reaching and sensitive topic.

PARTICIPANTS

National Business Aircraft Association
Aircraft Owners and Pilots Association
Air Line Pilots Association
Allied Pilots Association
Air Traffic Control Association
Air Transport Association
Regional Airline Association
Experimental Aircraft Association
Helicopter Association International
National Association of State Aviation Officials
Department of Defense
United States Coast Guard
FAA, System Plans and Programs Division, AAT-100
FAA, Procedures Division, AAT-300
FAA, Office of Flight Operations, AFO-1
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Rotorcraft Program Office, ARO-1
FAA, Associate Administrator for Aviation Safety, ASF-1
FAA, Great Lakes Region

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TG 7-1 Terminal Services by Air Route Traffic Control Center

AREA CONTROL FACILITIES NO. 1 - (TG 7-1.1)

Study Date: February 22, 1988 (2 weeks)

The potential for operational adjustments in procedures, regulations, and airspace connected with area control facility implementation is significant. Review of the associated operational considerations should be conducted and the results entered as a vital element in de-

veloping the area control facility operational concept. Two sessions are scheduled.

AREA CONTROL FACILITIES NO. 2 - (TG 7-1.2)

Study Date: June 20, 1988 (2 weeks)

Because of the magnitude of the task and in consideration of DOD involvement, two studies are required.

PARTICIPANTS

Aircraft Owners and Pilots Association
Air Transport Association
Regional Airline Association
Air Line Pilots Association
Allied Pilots Association
National Air Transportation Association
National Association of State Aviation Officials
Helicopter Association International
National Business Aircraft Association
Department of Defense
FAA, Office of Aviation Safety, ASF-1
FAA, System Plans and Programs Division, ATR-100
FAA, Airspace-Rules and Aeronautical Information Division, ATO-200
FAA, Procedures Division, ATO-300
FAA, Operations Division, ATO-400
FAA, Associate Administrator for Development and Logistics, ADL-1
FAA, Western Pacific Region
FAA, Great Lakes Region

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Edward T. Harris
Acting Director, Office of Management Systems, AMS-1

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